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HEMODYNAMIC RESPONSE TO EXERCISE STRESS TEST IN MULTIETHNIC CHILDREN: THE FIRST REPORT ON HISPANIC POPULATION

Poster Contributions
Hall C
Saturday, March 29, 2014, 10:00 a.m.-10:45 a.m.

Session Title: Exercise Physiology: Importance of Demographics
Abstract Category: 27. Standard ECG, Stress Testing: ECG, Stress Testing, Sports and Exercise
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Background: Current literature lacks information on whether there are differences in hemodynamic response (HDR) to dynamic exercise (DE) between African Americans (AA), Caucasians and Hispanics children.

Methods: We conducted a cross-sectional study of all healthy children and adolescents who underwent an exercise Bruce protocol stress test at our institution from 2003 to 2013. Heart rate (HR), systolic and diastolic blood pressures (SBP and DBP) were obtained during the following stages: supine, standing, Stage 1, Stage 2, Peak, and in recovery at 2, 5 and 10 minutes. The within subject repeated measure ANOVA test, adjusted for age, gender and body mass index was used to compare racial differences in HDR to DE.

Results: 182 subjects were included, [mean age 11.8±3.5 years, 100 (61%) males]. Ethnic group distribution was 37.4% AA, 49.5% Hispanics and 13.2% Caucasians. There was no statistically significant difference in SBP or DBP response to DE, but there was significant difference in HR response, that is derived from difference between AA and Hispanic subjects during recovery phase at 2 (p=0.008), 5 (p=0.001) and 10 minutes (p=0.006) applying Bonferroni correction for repeated testing.

Conclusion: This is the first study that reports on HDR to DE among Hispanic, AA and Caucasians which seems to be similar with the exception of HR during recovery time between AA and Hispanics. This study confirms that there is no difference in response to DE between AA and Caucasians.